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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,464	06/25/2001	Douglas E. Bise	K-1816	8703

7590 01/09/2004

Kevin P. Weldon
kennametal Inc.
P.O. Box 231
Latrobe, PA 15650

EXAMINER

GAY, JENNIFER HAWKINS

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 01/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888,464

Applicant(s)

BISE ET AL. 

Examiner

Jennifer H Gay

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19-21, 23, 25-35, 37 and 38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-8, 14, 15, 19-21, 23, 25-28, 30-35, 37 and 38 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 9-13, 16, 17 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-8, 14, 15, 19-21, 23, 25-28, 30-35, and 37-39 are rejected under 35 U.S.C. 103(a) as being obvious over Weaver et al. (US 2,894,726) in view of Galis (US 3,613,807).

Regarding claims 1, 19, 23, 26, 32, and 37-39: Weaver et al. discloses a rotary drag bit. The bit includes the following features:

- An elongate body (12) with a peripheral surface.
- An insert (generally located at "18") affixed to the axial forward end of the body and having a central longitudinal axis.
- Three discrete leading cutting edges (26) that are stepped.

It should be noted that the functional recitation that the steps improve the disintegration of the earth strata has not been given patentable weight because it is narrative in form. In order to be given weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth in 35 USC 112, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. *In re Fuller*, 1929 C.D. 172; 388 O.G. 279. It has been held that the term "integral" is sufficiently broad to embrace constructions united by such means as fastening and welding. *In re Hotte*, 177 USPQ 326, 328 (CCPA 1973).

Weaver et al. discloses all of the limitations of the above claims except for the insert being a monolithic hard insert.

Galis teaches a drill bit (29) that includes a monolithic hard insert (28 and 30, see Figure 1).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Weaver et al. to include monolithic hard insert as taught by Galis in order to have provided a substantial cutting force to the bit without damaging the insert (see col. 3, lines 1-5). One would have been motivated to make such a combination because a longer lasting drill bit would have been obtained, as inferred by Galis.

Regarding claims 2, 8, and 33: The stepped cutting edge includes an upper and lower step (28).

Regarding claim 3: The leading cutting edge of the upper and lower step are parallel (see Figures 1 and 2).

Regarding claims 6 and 28: The bit further includes a central longitudinal axis that passes through the insert and each of the leading cutting edges begins at a point radially outward from the central axis and extends away from that axis (see Figure 1 and 2).

Regarding claim 7: The leading cutting edges are formed by a corresponding leading edge of the insert that intersects the top surface of the insert (see Figure 1 and 2).

Regarding claims 14, 20, 30, and 34: The upper and lower steps have generally planar rake surfaces (see Figures 1 and 2).

Regarding claims 15, 21, 31, and 35: The angle of the lower rake surface is different from the angle of the upper rake surface (see Figure 28).

Regarding claim 25: The insert further includes a side clearance cutting edge (see Figures 1 and 3).

Allowable Subject Matter

3. Claims 4, 5, 9-13, 16, 17, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. In response to applicant's argument that there is no motivation to combine Weaver et al. and Galis with Brady, the examiner agrees and has withdrawn the rejection of claims 10-12, 16, 17, and 29.

5. In response to applicant's argument that there is no teaching or suggestion in Nance to construct a stepped bit wherein the relief angle of an upper step differs from the relief angle of a lower step, the examiner agrees and has withdrawn the rejection of claim 13.

6. Applicant has argued that there is no motivation to combine Weaver et al. and Dunn. It is the opinion of the examiner that such a combination would be obvious to one of ordinary skill in the art but as no specific motivation or advantage for such a combination can be found in either Weaver et al. or Dunn, Dunn has been withdrawn as a reference.

7. Applicant's arguments filed 21 November 2003 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the examiner notes that the motivation to combine Weaver et al. and Galis can be found in column 3, lines 1-5 of Galis. Further, applicant has admitted in the amendment filed 21 November 2003 that Galis is designed for longer bit life.

In response to applicant's argument that it is not disclosed in Galis what material the drill head is formed from and it has not been pointed out by the examiner if the combination of Weaver et al. and Galis would result in an insert formed from the hard material of the softer material of Weaver et al., the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the

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primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). The examiner notes that Galis was used merely for the teaching of a monolithic insert, which by applicant's definition indicates that the insert is total uniform in construction. Further, the drilling head of Galis is constructed to increase bit life thus would not have been formed from a "softer" material. The examiner further notes that that Weaver et al. clearly teaches forming the insert from a hard material.

In response to applicant's argument that Weaver et al. and Galis are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both references are drawn toward drill bits thus would be analogous.

In response to applicant's argument that Weaver et al. does not disclose making the drill head monolithic, the examiner agrees but notes that applicant is arguing Weaver et al. as if it had been applied under 35 USC 102. Galis has been used to teach a monolithic drill head.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

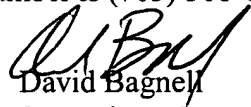
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
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H Gay whose telephone number is (703) 308-2881. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (703) 308-2151. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


David Bagnell
Supervisory Patent Examiner
Art Unit 3672

JHG 
January 5, 2004